Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-41 (Canceled)

1 ~~42.~~ (Currently Amended) An isolated or purified nucleic acid sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:8, wherein said nucleic acid sequence is obtained by genetic engineering and designed by selecting at least a portion of the codons of said nucleic acid sequence from codons preferred for expression in a host cell.

2 ~~43.~~ (Previously Presented) The nucleic acid of claim ~~42~~ 1, wherein said nucleic acid comprises nucleotides 10-1332 of SEQ ID NO:7.

44. (Canceled)

3 ~~45.~~ (Previously Presented) The nucleic acid of claim ~~42~~ 1, further comprising an expression control sequence operably linked to said nucleotide sequence.

4 ~~46.~~ (Previously Presented) The nucleic acid of claim ~~45~~ 3, wherein said expression control sequence comprises a promoter.

5 ~~47.~~ (Previously Presented) The nucleic acid of claim ~~45~~ 3, wherein said expression control sequence comprises an enhancer.

12 ~~48.~~ (Currently Amended) A method of preparing a polypeptide comprising a carboxy-terminal portion of the heavy chain of botulinum neurotoxin serotype B, comprising:

transfecting a cell with a nucleic acid sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:8, wherein said nucleic acid sequence is obtained by genetic engineering and designed by selecting at least a portion of the codons of said nucleic acid sequence from codons preferred for expression in a host cell; and

culturing the transfected cell under conditions wherein the nucleic acid is expressed and ~~said carboxy-terminal portion of the heavy chain of botulinum neurotoxin serotype B~~ the polypeptide comprising the amino acid sequence of SEQ ID NO:8 is produced,

wherein the cell is selected from the group consisting of a gram negative ~~bacteria~~bacterium, a yeast cell, and cell of a mammalian cell line.

13 ~~49.~~ (Previously Presented) The method of claim ~~48~~ 12, further comprising recovering from said transfected cell at least one insoluble polypeptide comprising the amino acid sequence of SEQ ID NO:8.

14 ~~50.~~ (Previously Presented) The method of claim ~~48~~ 12, wherein said cell is *Escherichia coli*.

15 ~~51.~~ (Previously Presented) The method of claim ~~48~~ 12, wherein said cell is *Pichia pastoris*.

52. (Canceled)

11 ~~53~~. (Currently Amended) A method of isolating an immunogenic polypeptide comprising the amino acid sequence of SEQ ID NO:8, comprising:

culturing a cell transfected with an expression vector comprising a nucleic acid sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:8, wherein said nucleic acid sequence is obtained by genetic engineering and designed by selecting at least a portion of the codons of said nucleic acid sequence from codons preferred for expression in a host cell, under conditions wherein the nucleic acid sequence is expressed; and

isolating from said transfected cell at least one insoluble polypeptide comprising the amino acid sequence of SEQ ID NO:8,

wherein the cell is selected from the group consisting of a gram negative ~~bacteria~~ bacterium, a yeast cell, and cell of a mammalian cell line and wherein the isolated polypeptide is immunogenic.

54. (Canceled)

6 ~~55~~. (Previously Presented) The nucleic acid of claim ~~42~~ 1, wherein the AT content is less than about 70% of the total base composition.

7 ~~56~~. (Previously Presented) The nucleic acid of claim ~~55~~ 6, wherein the AT content is less than about 60% of the total base composition.

57-81. (Canceled)

82. (Currently Amended) A ~~recombinant~~ host cell comprising the nucleic acid of claim ~~45~~, wherein said nucleic acid is expressed.

83-84. (Canceled)

85. (Previously Presented) The recombinant host cell of claim ~~82~~, wherein said nucleic acid is expressed as a polypeptide, and wherein said polypeptide is at least 0.75% (w/w) of the total cellular protein.

86. (Previously Presented) The recombinant host cell of claim ~~85~~, wherein said polypeptide is at least 20% (w/w) of the total cellular protein.

87. (New) An isolated nucleic acid comprising nucleotides 10-1332 of SEQ ID NO:7.

88. (New) The nucleic acid of claim ~~87~~, wherein said nucleic acid comprises SEQ ID NO:7.